

REMARKS

Claims 1-12 remain pending in the application.

Claims 1-12 over Chen

In the Office Action, claims 1-12 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Chen et al., U.S. Patent No. 5,500,900 (“Chen”). The Applicant respectfully traverses the rejection.

Claims 1-4 and 9-12 recite a system and method utilizing a **plurality of regularizing models** to regularize a plurality of spatial characteristic functions and spatial characteristic sets prior to a respective combination with a plurality of Eigen filters to provide a plurality of head related transfer functions with **varying degrees of smoothness**.

Chen discloses a single spline model for producing regularized spatial transformation characteristic functions (col. 5, lines 21-28). A regularization parameter within an equation used to obtain the spline model is used to control the trade-off between smoothness and fidelity (Chen, col. 5, lines 29-31).

Thus, Chen relies on a **single** regularizing model to produce regularized spatial transformation characteristic functions. Chen fails to disclose or suggest a system and method utilizing a **plurality of regularizing models** adapted to regularize a plurality of spatial characteristic functions and spatial characteristic sets prior to a respective combination with a plurality of Eigen filters to provide a plurality of head related transfer functions with **varying degrees of smoothness**.

A benefit of utilizing a **plurality of regularizing models** to provide a plurality of head related transfer functions with **varying degrees of smoothness** is, e.g., an ability to more accurately process a sound signal. Chen relies on a single spline model that must make a trade-off between smoothness and fidelity (col. 5, lines 29-31). Applicant’s claimed features overcome the deficiency of having to make a trade-off between smoothness and fidelity by using a **plurality of regularizing models** to provide **varying degrees of smoothness**. **Varying degrees of smoothness** can be selectively applied to differing portions of a

sound signal depending on the particular relevance to an overall sound signal being produced.

Claims 5-8 recite a single regularized head-related transfer function filter produced by summing Eigen filters and regularized spatial characteristic functions.


As discussed above, Chen relies on a regularizing model to produce regularized spatial transformation characteristic functions. The regularized spatial transfer characteristic functions are combined with Eigen filters to synthesize a plurality of regularized Field Effect Transfer Functions at any given elevation and azimuth (Chen, col. 5, lines 42-43). Thus, Chen disclosing a plurality of regularized Field Effect Transfer Functions produced by regularized spatial transfer characteristic functions combined with Eigen filters is **NOT** a single regularized head-related transfer function filter produced by summing Eigen filters and regularized spatial characteristic functions, as recited by claims 5-8.

Accordingly, for at least all the above reasons, claims 1-12 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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